PSYCHOLOGICAL LITERATURE.

(1) *Influence of Acute Alcohol Poisoning on Nerve Cells.* COLIN C. STEWART. The Journal of Experimental Medicine, Vol. 1, pp. 223-29. Plate XXVI, 12 colored Figs.

The experiments were undertaken with the purpose of testing the results obtained recently in this field by Dehio, Berkley and others. They were conducted as follows: Of three adult male cats one was kept in an alcoholic stupor (by intra-abdominal injection of 40% alcohol in 0.6% salt solution) for 54½ hours, being killed at the end of this time by an overdose of alcohol; the second was killed by an overdose in 50 minutes; the third was decapitated. From the cats, thus dead at the same time, equal sized pieces of different parts of the nervous system, spinal cord and ganglia, cerebellum and cerebrum, were cut out from corresponding localities, and all placed in the same dishes of the hardening reagents (absolute alcohol and the osmic-bichromate mixture) of the quick Golgi method. No confirmation of Berkley's results, moniliform swellings of the dendrites with degeneration of their contact granules, fragmentation of cell-body, etc., was, obtained. It should be stated, however, that Berkley's work was done with chronic alcoholic material. The specimens hardened in alcohol were stained by the methylene blue method and furnished the strongest possible confirmation of Dehio's general result. All the sections to be compared were stained together in the same dishes throughout the whole process. The difference between the three animals in the depth to which the tissue from each was stained was so striking that it could be easily observed with the unaided eye. This difference in color tone is well shown in the plate, together with the microscopical appearance of the cells. Cells from the alcoholic animal (54½ hours) stain very lightly; they stain somewhat more darkly in the animal killed in 50 minutes, and are normally dense in the normal animal. Not all the cells, especially of the cerebellum and spinal chord, are equally affected, but a significant fact is noted in this respect in different regions. By using the cells in the figure as a color scale, practically all the cells of the cerebrum correspond uniformly with the scale, *i. e.*, very light for the first alcoholic animal, a little darker in the second, and dark in the normal animal. In the cerebellum not so many cells are affected to such an extreme degree, and among the large cells of the spinal cord comparatively few are affected. Cell bodies are a little larger in the normal animal. Measurements of the nuclei were impossible on account of heavy granulation of protoplasm in the normal (Purkinji cells), but were respectively 11.25 and 13.15 micra for the first and second alcoholic cats. Nucleoli appear very small in the alcohol animals, measurements in micra being as follows for the three animals: Normal, 2.94μ; alcoholic (50 minutes), 2.85μ; alcoholic (54½ hours), 2.76μ.

The paper confines itself to experimental results, and makes no attempt at their interpretation as yet. It is of importance, however, to note that somewhat similar appearances have been demonstrated in the fatigue of the nerve cell, as worked out by the same method.

(2) *I Cambiamenti Microscopici delle Cellule Nervose nella loro Attivita funzionale e sotto l'Azione di Agenti Stimolanti e Distruttori.* GIAMBATTISTA VALENZA. Napoli, 1896. Pp. 54. Plates I and II, 22 colored Figs.

This paper will be found especially valuable as a *résumé* of all that has been observed by way of changes in nerve cells under physiological and pathological conditions. For his experiments with electrical stimulation the author used the electric lobe of Torpedo marmorata and ocellata, stimulating the surface directly. The current was obtained from four large Bunsen cells, the stimulation being obtained from the secondary of a "grande" Du Bois-Reymond coil. The position of the secondary coil, the strength of current, frequency of shocks are only indicated indefinitely, "alta tensione e grende frequenza," "media tensione e media frequenza," etc., which not only makes confirmation of his experiments impossible, but renders comparison of his results with those of others inexact. He obtains a shrinkage of the nucleus, with increase of chromatin toward the centre close to the electrodes, accompanied with irregularity of contour. Farther from the electrodes the nuclei become turgid with their chromatin arranged about the periphery. Valenza is unable to confirm any of the observations which claim to prove mitotic division of nerve cells, indications of division being confined to the ependyma, when they occur. For his destructions he used a red-hot iron, and as a result he obtains some peculiar pictures, fusion of nerve cells, fragmentation of nuclei which simulate mitotic figures, etc. In any such procedure, it is impossible to interpret the results. They may be phenomena of simple steam explosion, heat coagulation, interference with nutrition, poisoning with decomposition products, etc., etc., and certainly throw light only upon similar procedures of other experimenters, and none on the normal or pathological processes which go on in nerve cells. Figure 19 shows two nerve cells from an animal killed by injection of strychnine. In one of the cells the nucleolus is situated in the centre of the nucleus. In the other the drawing and text indicate that it has migrated out into the protoplasm. I have observed many such in my own specimens, and in every case have been able to find evidence that they were simply dragged out of their normal position by the edge of the section knife. We miss throughout the paper any adequate consideration of normal control material. C. F. H.

(3) *La plasticité Morphologique des Neurones Cérébraux.* DR. JEAN DEMOOR. Arch. de Biologie, XIV, 1896.

In studying the general subject of the plasticity of nerve cells DeMoor has observed a diminution of chromatin in the cells of the cortical visual centres, as a result of thirty minutes' normal function, and, after some time, irregularities in the nucleus and general decrease in the size of the cell. But it is to his other experimental work that special interest attaches. Subcutaneous injection of morphine in dogs has given moniliform swellings of the protoplasmic processes of the cortical cells, recalling those described by Berkley and Andriezen for chronic alcoholism. Even the axis